

## CLAIMS

What is claimed is:

- 1           1. A smart card system, comprising:  
2           a terminal; and  
3           a smart card connected to the terminal and configured to initiate communication  
4           with the terminal.
- 1           2. The smart card system of claim 1, further comprising a communications  
2           protocol that enables asynchronous communications between the smart card and the terminal.
- 1           3. The smart card system of claim 2, further comprising a communications  
2           protocol that enables logical asynchronous communication between the smart card and the  
3           terminal.
- 1           4. The smart card system of claim 1, wherein the smart card accesses terminal  
2           resources connected to the terminal.
- 1           5. The smart card system of claim 1, wherein the terminal is connected to a host  
2           computer.
- 1           6. The smart card system of claim 5, wherein the smart card accesses host  
2           computer resources connected to the host computer.

1                   7. The smart card system of claim 1, wherein the terminal is connected to a  
2 network.

1                   8. The smart card system of claim 7, wherein the smart card accesses network  
2 resources connected to the network.

1                   9. The smart card system of claim 1, further comprising a means for establishing  
2 communication between the smart card and the terminal.

1                   10. The smart card system of claim 9, wherein the means for establishing  
2 communication includes means for establishing full-duplex communication.

1                   11. A smart card, comprising;  
2                   a communications circuit; and  
3                   a microcontroller connected to the communications circuit and configured to  
4                   initiate communication with a terminal to which the smart card is  
5                   connected.

1                   12. The smart card of claim 1, further comprising a storage unit having a program  
2                   stored therein.

1                   13. The smart card of claim 12, wherein the microcontroller executes the program  
2                   stored in the storage unit.

1                   14. The smart card of claim 13, further comprising a memory unit, wherein the  
2                   microcontroller temporarily stores the program in the memory unit.

1                   15. The smart card of claim 11, wherein the terminal has terminal resources  
2                   connected thereto and the microcontroller accesses the terminal resources.

1                   16. The smart card of claim 11, wherein the terminal is connected to a host  
2                   computer.

1                   17. The smart card of claim 16, wherein the host computer has host computer  
2                   resources connected thereto and the microcontroller accesses the host computer resources.

1                    18. The smart card of claim 11, wherein the terminal is connected to a network.

1                    19. The smart card of claim 18, wherein the network has network resources  
2      connected thereto and the microcontroller accesses the network resources.

1                   20. A method of operating a smart card, comprising;  
2                   transmitting a command from the smart card to the terminal;  
3                   waiting for a response from the terminal; and  
4                   receiving the response from the terminal.

1                   21. The method of claim 20, wherein the smart card initiates communication with  
2                   the terminal.

1                   22. The method of claim 20, further comprising a communications protocol that  
2                   includes  
3                   a class field,  
4                   an instruction field,  
5                   a first parameter field,  
6                   a second parameter field, and  
7                   a data field.

1                   23. The method of claim 22, wherein the communications protocol is ISO 7816  
2                   compatible.

1                   24. The method of claim 20, wherein transmitting the command and receiving the  
2                   response occur asynchronously.

1                   25. The method of claim 20, wherein transmitting the command and receiving the  
2   response occur logically asynchronously.

1                   26. The method of claim 20, wherein transmitting the command and receiving the  
2   response occur in full-duplex.

1                   27. The method of claim 20, further comprising re-transmitting the command if  
2   no response is received from the terminal within a predefined time period.

1                   28. The method of claim 20, further comprising requesting a list of available  
2   services from the terminal.

1                   29. The method of claim 28, wherein the command is selected from the list of  
2   available services.

- 1                   30. A method of debugging a smart card, comprising:
- 2           executing a diagnostic portion of a program stored on the smart card;
- 3           receiving a result from the smart card; and
- 4           comparing the result to an expected result.
- 1                   31. The method of claim 30, further comprising displaying the result on a display.